DOCUMENT RESUME

ED 185 911 HE 012 577

AUTHOR Breslin, Thomas P.
TITLE The Economic Impact of Trenton State College on the Local Community, Fiscal 1978.
INSTITUTION Trenton State Coll., N.J.
PUB DATE Sep 79
NOTE 54p.; Not available in paper copy due to marginal legibility of original document. Best copy available.

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Banking; Business; Community Services; Commuting Students; Economic Research; *Educational Economics; Expenditures; Government School Relationship; Higher Education; Local Government; Local Issues; Mathematical Formulas; Productivity; Questionnaires; Real Estate; *School Business Relationship; *School Community Relationship; School Surveys; State Colleges; State Government; Taxes
IDENTIFIERS *Economic Impact; Tax Exemptions; *Trenton State College NJ

ABSTRACT

Quantitative data on the nature and magnitude of the economic impact of Trenton State College (New Jersey) on the surrounding community are provided in an attempt to reduce conjecture. Data were collected for fiscal year 1977-78. In many cases the data were then applied to a model developed by John Caffrey and Herbert H. Isaacs; in other cases, surrogate models were developed. Positive economic impacts include $22.5 million in college-related local expenditures, $22.0 million in the value of business property committed to college-related business, $7.0 million in expansion of local banks' credit base from college-related deposits, $2.7 million in college-related revenues received by local government, and 2,010 local jobs attributable to the presence of the college. Negative economic impacts include $3.8 million in operating costs of local government-provided municipal and public school services, $7.3 million in the value of local governments' properties allocable to the college-related portion of their services, $26 thousand in real estate taxes foregone through the tax-exempt status of the college, and $1.2 million in local business volume unrealized because of the existence of college enterprises. On balance, it is found that the college has a substantial positive impact on the economic health of local business, government, and individuals. Appended are a bibliography, map of the area, faculty and staff questionnaire, commuting student questionnaire, and the mathematical formulas used in the study. (MSE)

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THE ECONOMIC IMPACT OF TRENTON STATE COLLEGE ON THE LOCAL COMMUNITY

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THE ECONOMIC IMPACT OF TRENTON STATE COLLEGE ON THE LOCAL COMMUNITY

FISCAL 1978

by

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TRENTON STATE COLLEGE

September 1979

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PREFACE

There is little doubt that a college provides educational, cultural, aesthetic, and recreational opportunities for the local community. Conspicuously absent from the many brochures and pamphlets concerning the college is its economic impact on the local environment. When such an issue is addressed it usually can be reduced to conjecture on the part of those addressing the topic. This study, The Economic Impact of Trenton State College on the Local Community, provides a basis to reduce such conjecture by making available quantitative data about the nature and magnitude of the economic impact of the College.

Data collection for fiscal year 1977-78 was begun in the summer of 1978. In many cases the data were then applied to models originally developed by John Caffrey and Herbert H. Isaacs in this published document Estimating the Impact of a College or University on the Local Economy. In some cases, however, it was necessary to develop surrogate models to improve and to meet data limitations.

Very special thanks are expressed to Mr. Thomas LaSala, my research assistant throughout the study.

Special thanks are also expressed to the following College personnel who contributed to the study:

Dr. Anthony Hantjis, Director
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Trenton, New Jersey
September, 1979

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TRENTON STATE COLLEGE PROFILE

The Trenton State College campus is located in a suburban/residential setting in Ewing Township, New Jersey. The campus occupies 210 acres, which are set off by two lakes and many acres of mature trees. Approximately 8,000 undergraduate and 2,000 graduate students are enrolled. Over 75 percent of the Trenton State College students live in campus residence halls or reside in College-approved off-campus housing and apartments.

Trenton State College offers majors leading to the Bachelor of Arts degree in advertising design, art, art therapy, biology, chemistry, English, geography, history, mathematics, music, philosophy, physics, political science, psychology, sociology, and speech communication and theatre.

The Bachelor of Science degree is awarded in business administration, business education, criminal justice, distributive education, early childhood education, electronic engineering technology, elementary education, health education, health and physical education, industrial education, industrial engineering technology, mechanical engineering technology, nursing, recreation, education for the developmentally handicapped, education for the hearing-impaired, vocational education, speech pathology and audiology, and media communication science. Interdisciplinary majors and minors are also available in several areas.

Advanced degrees include the Master of Science in Management, Educational Specialist, Master of Arts, Master of Arts in Teaching, and Master of Education.

Facilities include a library that houses 316,000 volumes and subscribes to over 2,000 periodicals, two theatres, a recital hall, Student Center, 21 buildings devoted to classrooms and administrative uses, and six residence halls that accommodate 2,200 students.

Sports facilities include a baseball park, football field, soccer field, lighted tennis courts, two gymnasia, swimming pool, and indoor tennis and racquet ball courts (under construction).

There are approximately four hundred full-time faculty members at the College, representing a diversity of interests and disciplines. The faculty is responsible for teaching both graduate and undergraduate courses. In addition, the faculty are involved in a large number of research projects and have a commitment to assist the community in a variety of projects.

INTRODUCTION

The mere presence of a college in a community offers the obvious attributes normally associated with institutions of higher education: formal education, research, and public service functions. In addition, a college can serve as a source of entertainment, recreation, banquet facilities, labor pool, and revenue to the community at large. The presence of a college is not without its costs to the same community. Not only does a college occupy tax-exempt property, but also it is a user of public resources, particularly the public schools. The local municipality must also provide fire and police protection, libraries, recreation facilities, and utilities to the employees and their dependents.

A community feels the impact of the college in a variety of ways. Primary, or direct economic impact on a community, results from expenditures in the local environment by the college as a single consuming unit and also by the college faculty, staff, students, and visitors to the campus. Direct economic impact results when the college purchases goods and services in the local community; it also results when the individual consuming units associated with the college expend disposable income for goods and services within the local community. These direct expenditures by the college and by those associated with the college have a multiplying effect. This multiplier effect creates additional jobs and has a significant effect on incomes and expenditures throughout the local community. The combined expenditures -- both direct and multiplied -- comprise the total college-related local volume of expenditures.

PURPOSE OF THE STUDY

The purpose of this study is to determine the economic impact of Trenton State College on its local community. Factors that are considered include influences on local business, local governments, and individuals living in the local community.

In fiscal 1978, the total College budget amounted to $19,202,000, with 80 percent of the total budget allocated to payroll expenditures. This study will quantify the significant economic relationships between Trenton State College and the local community.

GEOGRAPHIC AREA INCLUDED IN THE STUDY

The local community (as defined in this study) is a twenty-mile radius from Trenton State College. The reason for this definition is that the College is located within a highly metropolitan location with the most heavily populated locale being the greater Trenton area. A map of the impact area is shown in Appendix A. The area includes all of Mercer County; the southern portion of Hunterdon County; northern Burlington County; small portions of Somerset, Middlesex, Monmouth, and Ocean Counties in New Jersey; and a portion of lower Bucks County in Pennsylvania. A final reason for defining the area as noted above is that 91 percent of the faculty and staff of Trenton State College reside within these boundaries.

PROCEDURES

Essential data for this study were obtained from records of the College, from local governments, from public school districts, from the business community, and through a questionnaire.

A survey was conducted to obtain pertinent information not available elsewhere concerning characteristics of the faculty, staff, and students. A thirty percent random sample was obtained from faculty and staff while a five percent random sample was obtained for student characteristics. The survey instruments appear in Appendix B.

The primary and secondary data necessary for the completion of this study were incorporated into each of the appropriate major economic impact models and submodels. See Appendix C for detailed information on the economic impact models. The three major economic impact areas studied are:

"Economic Impact on Local Business" -- Models B-1 through B-4 (and submodels)
"Economic Impact on Local Government" -- Models G-1 through G-5 (and submodels)

"Economic Impact on Individuals" -- Models I-1 through I-3:

The procedures utilized required that direct and indirect economic impacts brought about by the College be expressed in monetary terms. Measuring the impact of the College on the community in monetary terms only is not completely realistic but the research procedure called for quantification in monetary terms only.

The research procedure also called for a deliberate downward bias for all positive economic impacts of the College. Through the use of such "low-bound" estimates, the likelihood of overestimation of the College's economic impact was minimized.

FINDINGS

A. Economic Impact on Local Business

Direct and indirect impacts of College-related business activity represent income-induced business activity in the local community. This income-induced business activity is generated by dollars spent by the College in the local community for goods and services, income earned by faculty and staff, and dollars expended by students for like goods and services. This spending allows members of the local business community to pay out a portion of those receipts generated by the College community to other local residents, usually in the form of wages and salaries. These local residents in turn spend a part of this income for goods and services within the local community. Therefore the initial local expenditure by the College community is multiplied throughout the local community.

The results of the direct and indirect effects of such College-related business activity have been estimated for the various categories listed below.

MODEL B-1

College-Related Local Business Volume	$22,472,240
Model B-1 includes:	
Model B-1.1 College-Related Local Expenditures .	$11,704,292
Model B-1.2 Purchases from Local Sources by Local Businesses in Support of their College-Related Business Volume	2,340,858
Model B-1.3 Local Business Volume Stimulated by the Expenditure of College-Related Income by Local Individuals other than Faculty, Staff, or Students	8,427,090

MODEL B-1.1

College-Related Local Expenditures $11,704,292

Model B-1.1 includes:

Model B-1.1.1 Local Expenditures by the College $3,938,197

Model B-1.1.2 Local Expenditures by Faculty and Staff 4,409,041

Model B-1.1.3 Local Expenditures by Students . . . 3,357,053

MODEL B-1.1.2

Local Expenditures by Faculty and Staff . . . . . $ 4,409,041

Model B-1.1.2 includes:

Model B-1.1.2.1 Expenditures by Faculty and Staff for Local Rental Housing . . . $ 832,204

Model B-1.1.2.2 Local Non-housing Expenditures by Local Faculty and Staff 3,293,797

Model B-1.1.2.3 Local Expenditures by Non-Local Faculty and Staff 283,040

MODEL B-1.1.3

Local Expenditures by Students . . . . . $ 3,357,053

Model B-1.1.3 includes:

Model B-1.1.3.1 Local Miscellaneous Expenditures, Exclusive of Room and Board, by Students Obtaining Local Room and Board in Dormitories or with Parents . . . . . $ 740,676

Model B-1.1.3.2 Expenditures by Students for Local Rental Housing 901,229

Model B-1.1.3.3 Local Non-Housing Expenditures by Students Who Rent Local Housing 1,223,898

Model B-1.1.3.4 Local Expenditures by Non-Local Students 491,250

MODEL B-2

Value of Local Business Property Committed to College-Related Business $21,848,011

Model B-2 includes:

Model B-2.1 Value of Local Business Real Property Committed to College-Related Business $19,507,153

Model B-2.2 Value of Local Business Inventory Committed to College-Related Business 2,340,858

MODEL B-3

Expansion of Local Banks Credit Base Resulting from College-Related Deposits . . . . . $ 6,949,873

MODEL B-4

Local Business Volume Unrealized Because of the Existence of College Enterprises . . . . . $ 1,178,375

Reference to Model B-1 will show that total College-related local business volume is estimated to be approximately $22.5 million. College-related local expenditures are approximately one-half of the total ($11.7 million). Almost 40 percent of the College's local business volume ($8.4 million) is stimulated by the expenditure of College-related income by local individuals other than faculty, staff, or students. Ten percent of the College-related local business volume is attributable to purchases from local sources by local businesses in support of their College-related business volume.

Model B-1.3 shows $8.4 million of local business volume stimulated by the expenditure of College-related income by local individuals other than faculty, staff, or students as an example of the multiplier effect described earlier. In this instance, the multiplier effect identifies a considerable amount of local business volume being generated as an "indirect" function of the College community's expenditures.

An examination of Model B-1.1 reveals $11.7 million of College-related local expenditures. The majority of these expenditures are made by the faculty, staff, and through purchases by the College. Thirty-eight percent of these expenditures are local expenditures by faculty and staff ($4.4 million). Local expenditures by the College account for 34 percent of the expenditures ($3.9 million).

Local expenditures by faculty and staff account for $4.4 million (Model B-1.1.2). Seventy-five percent of local expenditures by local faculty and staff are in the category of local non-housing ($3.3 million). Expenditures by faculty and staff for local rental housing account for 19 percent of local expenditures ($800,000). Approximately $280,000 is spent locally by non-local faculty and staff, accounting for 6 percent of local expenditures.

Local expenditures by students are estimated at $3.3 million as shown in Model B-1.1.3. Over one-third of this amount (36 percent) is allocated to local non-housing expenditures by students who rent local housing. Almost one-half of the total is spent on: (a) local miscellaneous expenditures, exclusive of room and board, by students obtaining local room and board in dormitories or with parents ($700,000, or 22 percent) and (b) expenditures by students for local rental housing ($900,000, or 27 percent). Local expenditures by non-local students account for expenditures of

approximately $490,000 (15 percent). These figures show that the majority of local expenditures (85 percent) are generated by students living on campus or in the College locale.

The value of local business property committed to College-related business is estimated at $21.8 million by Model B-2. Almost 90 percent ($19.5 million) of the total is allocated to local business real property committed to College-related business, with the remainder ($2.3 million) allocated to local business inventory. These estimates show that the commitment of local business to College-related business is primarily in the form of investment in real property.

Other significant effects of the College on the community are reported in Models B-3 and B-4. It is estimated that almost $7 million is added to local banks' credit base as a result of deposits of those affiliated with the College and from the business activity they generate. The $7 million figure is based on the finding that the average time deposit held by each faculty and staff member was approximately $3,200 and the average checking account balance was approximately $460. For students, the average time deposit and checking account balances were approximately $860 and $155, respectively.

The College does compete with local businesses for some goods and services. Examples would be housing, commissaries, films, and general retail sales. Model B-4 ($1.2 million), local business volume unrealized because of the existence of College enterprises, attempts to estimate the direct and indirect magnitude of the market potentially available to local business but currently the domain of the College. Included in this model are all revenues received from College-operated enterprises multiplied

by the local multiplier to determine the extent of potential income lost by local businesses to the College.

It should be noted, however, that no attempt was made to address the hypothetical question such as what businesses might have been established in the community had it not been for the presence of the College.

B. Economic Impact on Local Government

The presence of the College in Ewing Township provides benefits to local government, but it also creates a need for governmental services. The models in this section will explore the various influences of the College on tax receipts of local government and the estimated cost of providing municipal services to the (a) college; (b) faculty, staff, students, and families; and (c) college-related businesses, employees, and their families.

The results of the direct and indirect effects of such College-related business activity have been estimated for the various categories listed below.

MODEL G-1

College-Related Revenues Received by Local Governments $2,677,932

Model G-1 consists of:

Model G-1.1 College-Related Real Estate Taxes Paid to Local Governments $1,756,552

Model G-1.2 State Aid to Public Schools Allocable to Children of College-Related Families 921,380

MODEL G-1.1

College-Related Real Estate Taxes Paid to Local Governments . $1,756,552

Model G-1.1 consists of:

Model G-1.1.1	Payments by the College in Lieu of Real Estate Taxes	$ 80,500
Model G-1.1.2	Real Estate Taxes Paid to Local Governments by Local Faculty and Staff	869,941
Model G-1.1.3	Real Estate Taxes Paid to Local Governments by Local Businesses for Real Property Allocable to College-Related Business	806,111

MODEL G-2

Operating Cost of Local Government Provided Municipal and Public School Services Allocable to College-Related Influences $3,813,918

Model G-2 consists of:

Model G-2.1	Operating Cost of Government-Provided Municipal Services Allocable to College-Related Influences	2,952,704
Model G-2.2	Operating Cost of Local Public Schools Allocable to College-Related Families	861,214

MODEL G-3

Value of Local Governments' Properties Allocable to College-Related Portion of Services $7,274,631

MODEL G-4

Real Estate Taxes Foregone Through the Tax-Exempt Status of the College . . . . . $ 26,409

MODEL G-5

Value of Municipal-Type Services Self-Provided by the College $ 595,260

Model G-1 ($2.7 mill[illegible]) reports the estimated annual tax receipts, state aid, and other local government receipts derived from the College and College-related persons and business activity. Two-thirds of the local government revenue ($1.7 million) is generated from College-related real estate taxes paid to local governments. State aid to public schools allocable to children of College-related families accounts for the remaining one-third of the revenues.

College-related real estate taxes paid to local governments are primarily from two sources: (a) taxes paid to local governments by local faculty and staff ($870,000) and (b) taxes paid by local businesses for real property allocable to College-related business ($806,111). Model G-1.1 reports approximately $1.7 million in College-related taxes paid to local government with the total almost evenly divided between the two categories reported immediately above. Five percent of the total ($80,500) represents payments by the College in lieu of real estate taxes. The $80,500 is paid directly to Ewing Township for public services even though the College is legally exempt from local property taxes.

Model G-1.1.3 is another example of a secondary effect, or indirect influence, of the College on revenue received by local governments. In this case, it can be surmised that College-related business volume increased tax revenue to the local governments.

A disclaimer is in order for Model G-1.1.2. In this model, real estate taxes paid to local governments by local faculty and staff amount to $869,941. This model makes no attempt to discern whether such aid is sufficient to cover the additional cost of education brought about by the increased enrollments resulting from the presence of the College.

The operating cost of local government-provided municipal and public school services allocable to College-related influences is reported as $3.8 million in Model G-2. The major part of this cost (77 percent) is attributable to the operating cost of government-provided municipal services allocable to College-related influences. Twenty-three percent of the total ($860,000) is reported as operating cost of local public schools allocable to College-related families.

It should be noted that in Model G-2.1 (cost of government-provided services allocable to College-related influence), the estimate was based on population relationships. It is important to recognize that the population basis for allocating costs of service to a college area may overestimate the cost of services to the college by implicitly underestimating the services rendered to business concerns. This overestimation occurs since businesses are usually capital intensive while colleges are usually labor intensive. The share of government expenditures allocated to the College will probably be higher than it would be for an industrial installation.

Model G-3 estimates the value of local governments' properties allocable to College-related portion of services at $7.3 million. This dollar amount indicates the value of local government-owned capital facilities that exist in support of services provided to the College and to College-related individuals.

Real estate taxes foregone through the tax-exempt status of the College ($26,409) are reported in Model G-4. The amount reported in this model estimates the additional property taxes that the College would pay if it were not tax exempt. To put it another way, the amount of Model G-4 is

the tax bill over and above the $80,500 (Model G-1.1.1) that the College paid in lieu of real estate taxes. The total estimated real estate taxes that might be owed by the College would be the sum of $80,500 plus $26,409 or $106,909 per annum. The key assumption in Model G-4 was that the assessed value of the College's land would be similar to that of other land in the contiguous community.

The College provides a significant number of municipal services to the campus. Model G-5 estimates that approximately $600,000 in municipal-type services is self-provided by the College. Such services include police and security, sanitation, streetlighting, street maintenance, and sewer service. No attempt was made to estimate the cost of these municipal services to the local community if the College's land was occupied by other businesses or households.

C. Economic Impact on Individuals

The third and final sector of the community influenced by the presence of the College to be considered is the individual. There are three models that are considered in this section: (1) the number of jobs attributable to the presence of the College; (2) personal income of local individuals from College-related jobs and business activity; and (3) durable goods procured with income from College-related jobs and business activity. In addition, this section includes the economic impact on those individuals who are directly and indirectly related to the presence of the College.

The data for the three major segments are as follows:

MODEL I-1

Number of Local Jobs Attributable to the Presence of the College 2,010

MODEL I-2

Personal Income of Local Individuals from College-Related Jobs and Business Activities $20,716,191

MODEL I-3

Durable Goods Procured with Income from College-Related Jobs and Business Activities . . . . . $ 2,440,367

Model I-1 measures the total number of jobs in the community that are both directly and indirectly related to the presence of the College. In order to arrive at this estimate, Model B-1.1 (College-Related Local Expenditures) and Model G-2 (Operating Cost of Local Government-Provided Municipal and Public School Services Allocable to College-Related Influences) were added to obtain the total local expenditures that can be associated with the College. The sum of B-1.1 and G-2 ($15.5 million) was then multiplied by the number of full-time jobs per dollar of direct expenditure in the local environment (.00007) in order to obtain the number of local jobs created by College-related expenditures (1086). This figure was then added to the number of faculty and staff positions (924) to obtain the total number of local jobs attributable to the presence of the College (2,010). The inference to be drawn from the foregoing is that the employment multiplier resulting from the presence of the College is 2.175, meaning that for every employee of the College there are 1.175 additional jobs created in the local community.

The figure of 2,010 jobs created by the presence of the College is a conservative estimate. The range usually associated with the number of full-time jobs per dollar of direct expenditure in the local environment is between .00007 and .00009. In keeping with the conservative estimates throughout this report, the low-bound estimation figure (.00007) was selected.

The total direct and indirect income of local individuals from College-related jobs and business activity (Model I-2) is estimated to be approximately $20.7 million. Included in this model are the personal income of local resident faculty and staff and the subsequent induced personal income that is related to additional jobs brought about by direct College-related expenditures.

Model I-3 shows that the $20.7 million of direct and indirect income of local individuals generated durable goods purchases of $2.4 million.

SUMMARY AND

HIGHLIGHTS OF THE STUDY

This study has reported the economic impact of Trenton State College on the (a) local business community; (b) local governments' revenues and expenditures; (c) employment, income, and durable goods consumption brought about by the College-induced economic activity.

Economic Impact on Local Business

The existence of the College has a positive impact on the local business community. Local business volume directly and indirectly attributable to the presence of the College amounts to over $22 million annually. A significant portion of the local business volume ($8.4 million) is generated through College-related income by local individuals other than faculty, staff, or students.

The College faculty, staff, and students are responsible for approximately $11.7 million in purchases annually in the local market place. Local expenditures by faculty and staff are primarily in the area of non-housing items ($3.3 million), and these expenditures, therefore, create a substantial number of jobs in the community.

The business community has a substantial portion of property committed to College-related business. In fiscal 1978 this property was valued at $20 million.

In addition to benefits to the typical business in the community, the banking industry realizes an increase in the credit base of $6.9 million resulting from College-related deposits.

The College does self-provide certain services that could be supplied by the business community but such services are not significant when compared with the total business volume generated by the College.

On balance, the College is a significant contributor to the economic health of the local community.

Economic Impact on Local Government

Local government must provide a variety of services to the College. Costs of such services are offset by the substantial contribution of the College and its employees to the economic health of the local community.

Local government operating costs amount to approximately $3.8 million for municipal and public school services allocable to College-related influences. Over three-quarters of this amount is used to provide municipal services to the College. Local governments have invested approximately $7.3 million in properties allocable to College-related portion of services.

The presence of the College generates income to the local government in the form of (1) $2.7 million in College-related revenues received by local governments; and (2) $1.7 million in College-related real estate taxes paid to local governments.

In addition to the services provided to the College by the local government, the College provides almost $600,000 of municipal-type services to the campus.

The College pays the local government an amount in lieu of property taxes, but this report reveals that the College would pay an additional $26,000 in property taxes over and above the amount currently contributed to local government.

Economic Impact on Individuals

The economic impact of the College is measured by (a) number of jobs attributable to the presence of the College; (b) personal income of local individuals from College-related activities; (c) purchase of durable goods with College-related income.

The presence of the College adds approximately 2,000 jobs to the local community work force. The 924 faculty and staff positions at the College generate approximately 1,086 other jobs in the local community.

Personal income of local individuals from College-related jobs and business activities amounts to almost $21 million. This $21 million figure represents not only the personal income of local resident faculty and staff but also shows the multiplier effect of College salaries on the local economy.

People who provide durable goods benefited considerably from the presence of the College. The $21 million of direct and indirect income of local individuals generated durable goods purchases of $2.4 million.

CONCLUSIONS

The objectives set forth in the initial plan of this study have essentially been met. The report summarizes the significant impact that Trenton State College has on the local community. It is sometimes concluded that the housing of a state agency places a considerable economic drain on the local community. The positive and negative economic impacts on the local community are summarized below.

Positive Economic Impacts

College-related local expenditures by faculty, staff, students, the College, and other local individuals	$22.5 million
Value of business property committed to College-related business	22.0 million
Expansion of local banks' credit base resulting from College-related deposits	7.0 million
College-related revenues received by local government	2.7 million
Number of local jobs attributable to the presence of the College	2,010

Negative Economic Impacts

Operating cost of local government provided municipal and public school services	$ 3.8 million
Value of local governments' properties allocable to College-related portion of services	7.3 million
Real estate taxes foregone through the tax-exempt status of the College	26 thousand
Local business volume unrealized because of the existence of College enterprises	1.2 million

This report can be summarized by stating that Trenton State College is contributing its fair share to the economic health of local business, government, and individuals.

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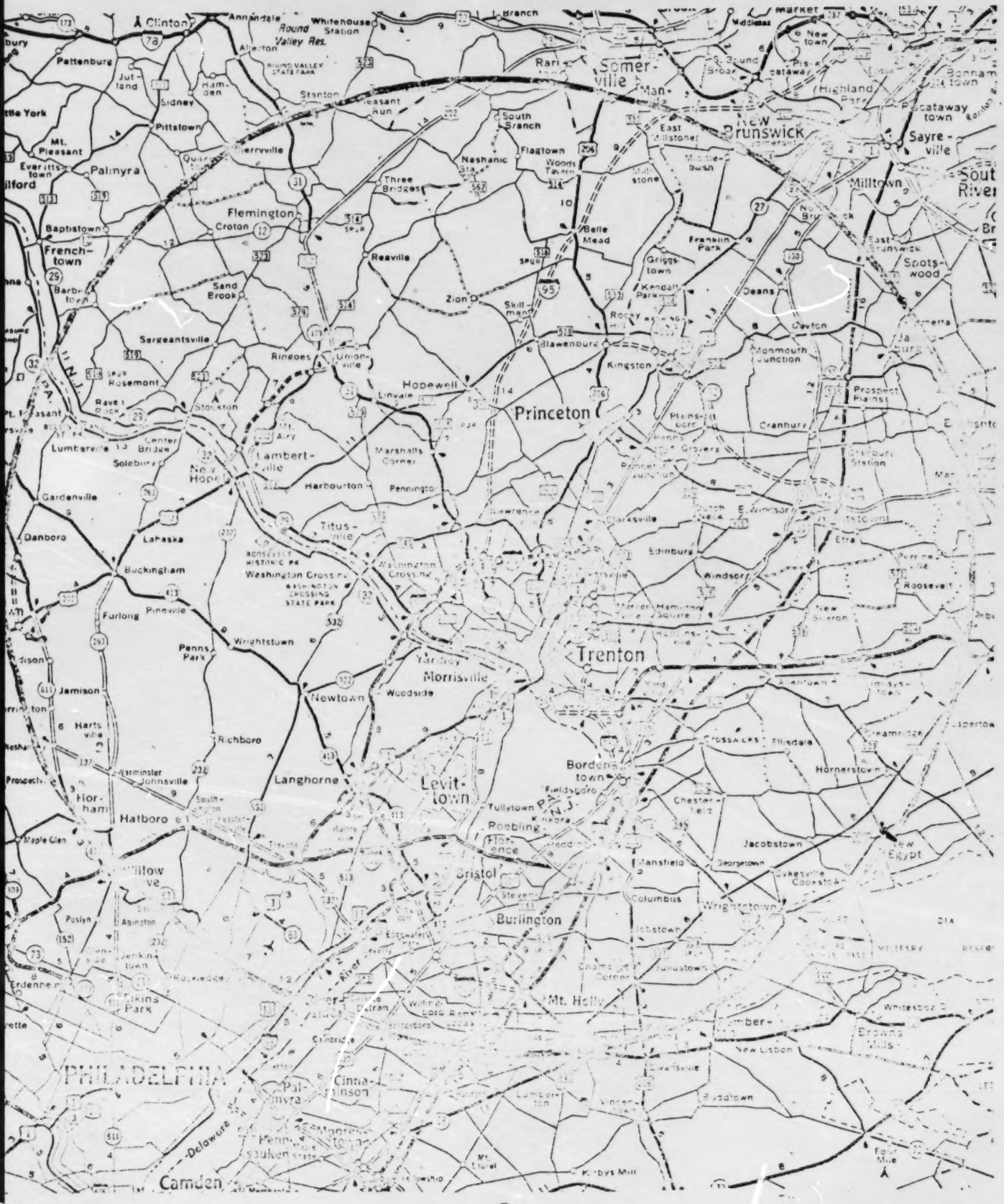
APPENDIX A


Princeton
Trenton
Somerville
New Brunswick
Flemington
Lambertville
Hopewell
Morrisville
Levittown
Bordentown
Burlington
Mt. Holly
Camden
PHILADELPHIA
Delaware River
Clinton
Frenchtown
Milltown
Sayreville
Hamilton
Langhorne
Newtown
Doylestown
Kingston
Monmouth Junction
Cranbury
Hightstown
Jamison
Richboro
Bristol
Trenton

APPENDIX B

TRENTON STATE COLLEGE
Economic Impact Study

Faculty - Staff Questionnaire

1. What is your marital status? (check one)

   _____Single, widowed, divorced, separated

   _____Married

2. Where is your residence? (Please indicate the town or city nearest you.)

3. Do you (check one)

   _____Rent an apartment?

   _____Own your home?

   _____Rent a house?

4. Please estimate your annual expenditures for:

   _____Home and auto insurance

   _____Utilities

   _____Property taxes

   _____Rent, or mortgage payment

5. How many persons are in your household?

   a. How many are children?

   b. How many children attend public schools?

6. What is your approximate combined annual expenditure for food, household items, automotive expenses, recreation, clothing and health care?

7. Roughly what percentage of this total in question six is spent within a twenty mile radius of Trenton State College?

8. What are your average balances in the following categories?

   Local bank checking accounts _____
   Local bank savings accounts _____
   Local credit union savings _____
   Local savings and loan accounts _____

9. What are your approximate annual dollar contributions to charitable or religious organizations?

10. Approximately how many hours of your time per year are spent in service to these organizations?

11. Approximately what percentage of your Total Family Income is derived from Trenton State College?

ECONOMIC IMPACT STUDY QUESTIONNAIRE

COMMUTING STUDENTS WHO RESIDE WITHIN THE DEFINED LOCAL AREA

1. Do you commute? (yes or no)
2. From where do you commute?
3. How many people travel with you regularly? (excluding self)
4. What is your average balance in:

   Checking_____

   Savings _____
5. Are you married? (yes or no)
6. If yes, do you have any children that attend public school?
7. If yes, please indicate number.

APPENDIX C

Model B-1

BV_{CR}

College-Related Local Business Volume

$$BV_{CR} = (E_L)_{CR} + (P_{LB})_{CR} + (BV_I)_{CR}$$

$(E_L)_{CR}$ = college-related local expenditures (model B-1.1)

$(P_{LB})_{CR}$ = purchases from local sources by local businesses in support of their college-related business volume (model B-1.2)

$(BV_I)_{CR}$ = local business volume stimulated by the expenditure of college-related income by local individuals other than faculty, staff or students (model B-1.3)

Model B-1.1

$(E_L)_{CR}$

$$(E_L)_{CR} = (E_L)_C + (E_L)_F + (E_L)_S + (E_L)_V$$

$(E_L)_C$ = local expenditures by the college (model B-1.1.1)

$(E_L)_F$ = local expenditures by faculty and staff (model B-1.1.2)

$(E_L)_S$ = local expenditures by students (model B-1.1.3)

$(E_L)_V$ = local expenditures by visitors to the college (model B-1.1.4)

Model B-1.2

$(P_{LB})_{CR}$

Purchases from Local Sources by Local Businesses

in

Support of Their College-Related Business Volume

$$(P_{LB})_{CR} = (m_p)\ (E_L)_{CR}$$

m_p = coefficient representing the degree to which local businesses purchase goods and services from local sources

$(E_L)_{CR}$ = college-related local expenditures, (model B-1.1)

Model B-1.3

$(BV_1)_{CR}$

Local Business Volume Stimulated by the Expenditure of College-Related Income by Local Individuals Other Than Faculty, Staff, or Students

$$(BV_1)_{CR} = (m_i)\ (E_L)_{CR}$$

m_i = coefficient representing the degree to which individual income received from local business activity is spent and respent locally

$(E_L)_{CR}$ = college-related local expenditures (model B-1.1)

Model B-1.1.1

$(E_L)_C$

Local Expenditures by the College

$$(E_L)_C = (e_L)_C \, (E_C - W_{F,S} - XF_C - R_C)$$

$(e_L)_C$ = proportion of total college expenditures that are local, excluding compensation, internal items, and taxes.

E_C = total college expenditures

$W_{F,S}$ = gross compensation to faculty, staff and students

XF_C = internal account transfers and payments

R_C = taxes and other payments to governments

Model B-1.1.2

$(E_L)_F$

Local Expenditures by Faculty and Staff

$$(E_L)_F = (E_H)_F + (E_{NH})_F + (E_L)_{NLF}$$

$(E_H)_F$ = expenditures by faculty and staff for local rental housing (model B-1.1.2.1)

$(E_{NH})_F$ = local nonhousing expenditures by local faculty and staff (model B-1.1.2.2)

$(E_L)_{NLF}$ = local expenditures by nonlocal faculty and staff (model B-1.1.2.3)

Model B-1.1.3

$(E_L)_S$

Local Expenditures by Students

$$(E_L)_S = (E_H)_S + (E_{NH})_S + (E_L)_{NLS}$$

$(E_H)_S$ = expenditures by students for local rental housing (model B-1.1.3.2)

$(E_{NH})_S$ = local nonhousing expenditures by students who rent local housing (model B-1.1.3.3)

$(E_L)_{NLS}$ = local expenditures by nonlocal students (model B-1.1.3.4)

Model B-1.1.2.1

$(E_H)_F$

Expenditures by Faculty and Staff for Local Rental Housing

$$(E_H)_F = (f_L)\ (f_H)\ (DI_F)\ (e_H)$$

f_L = proportion of faculty and staff residing locally

f_H = proportion of local faculty and staff who rent housing

DI_F = total disposable income of faculty and staff

e_H = proportion of a tenant's total expenditures likely to be spent for rental housing

Model B-1.1.2.2

$(E_{NH})_F$

Local Nonhousing Expenditures by Local Faculty and Staff

$$(E_{NH})_F = (f_L)\ (e_L)\ (DI_F)\ (e_{NH})_F$$

f_L = proportion of faculty and staff residing locally

e_L = proportion of total nonhousing expenditures that an individual is likely to make in his local environment

DI_F = total disposable income of faculty and staff

$(e_{NH})_F$ = proportion of a consumer's total expenditures spent on nonhousing items

Model B-1.1.2.3

$(E_L)_{NLF}$

Local Expenditures by Nonlocal Faculty and Staff

$$(E_L)_{NLF} = (1-f_L)\ (F)\ (E_1)_F$$

f_L = proportion of faculty and staff residing locally

F = total number of faculty and staff

$(E_1)_F$ = estimated average local expenditures by each nonlocal faculty and staff person

Model B-1.1.3.1

$(E_M)_S$

Local Miscellaneous Expenditures, Exclusive of Room and Board, by Students Obtaining Local Room and Board in Group Arrangements or with Parents

$$(E_M)_S = (S_L)\ (E_m)_S\ (e_L)$$

S_L = number of students obtaining local room and board from dormitories, fraternities, sororities, other groups, or parents

$(E_m)_S$ = average miscellaneous expenditures, exclusive of room and board, per student of this type

e_L = proportion of total expenditures, exclusive of room and board, that a student is likely to make in his local environment

Model B-1.1.3.2

$(E_H)_S$

Expenditures by Students for Local Rental Housing

$$(E_H)_S = (S_H)\ (E_h)_S$$

S_H = number of students renting local housing

$(E_h)_S$ = average rental housing expenditures per student

Model B-1.1.3.3

$(E_{NH})_S$

Local Nonhousing Expenditures by Students
Who Rent Local Housing

$$(E_{NH})_S = (S_H)\ (E_{nh})_S\ (e_L)$$

S_H = number of students renting local housing

$(E_{nh})_S$ = average nonhousing expenditures per student

e_L = proportion of total nonhousing expenditures that a student is likely to make in his local environment.

Model B-1.1.3.4

$(E_L)_{NLS}$

Local Expenditures by Nonlocal Students

$$(E_L)_{NLS} = (S_{NL})\ (E_I)_S$$

S_{NL} = number of nonlocal students

$(E_I)_S$ = estimated average local expenditures by each nonlocal student.

Model B-2

$(PR_B)_{CR}$

Value of Local Business Property Committed to College-Related Business

$$(PR_B)_{CR} = (RP_B)_{CR} + (I_B)_{CR} + (OP_B)_{CR}$$

$(RP_B)_{CR}$ = value of local business real property committed to college-related business (model B-2.1)

$(I_B)_{CR}$ = value of local business inventory committed to college-related business (model B-2.2)

$(OP_B)_{CR}$ = value of local business property, other than real property and inventory, committed to college-related business (model B-2.3)

Model B-2.1

Value of Local Business Real Property Committed to College-Related Business

$$(RP_B)_{CR} = \frac{BV_{CR}}{BV_L} \frac{V_B}{amv}$$

BV_{CR} = college-related local business volume (model B-1)

BV_L = local business volume

V_B = assessed valuation of local business real property

amv = local ratio of assessed value to market value of taxable real property

Model B-2.2

$(I_B)_{CR}$

Value of Local Business Inventory Committed to College-Related Business

$$(I_B)_{CR} = (ibv)\ (BV_{CR})$$

ibv = inventory to business-volume ratio

BV_{CR} = college-related local business volume (model B-1)

Model B-3

CV

Expansion of the Local Banks' Credit Base Resulting from College-Related Deposits

$$CB = (1-t)\ [\ TD_c + (TD_f)\ (F) + (TD_s)\ (S)\ ]$$
$$+ (1-d)\ [DD_c + (DD_f)\ (F) + (DD_s)\ (S) + (cbv)\ (BV_{CR})]$$

t = local time-deposit reserve requirement

TD_c = average time deposit of the college in local banks

TD_f = average time deposit of each faculty and staff person in local banks

F = total number of faculty and staff

TD_s = average time deposit of each student in local banks

S = total number of students

d = local demand-deposit reserve requirement

DD_c = average demand deposit of the college in local banks

DD_f = average demand deposit of each faculty and staff person in local banks

Model B-3 - continued

DD_s = average demand deposit of each student in local banks

cbv = cash-to-be-business-volume ratio

BV_{CR} = college-related local business volume (model B-1)

Model B-4

$(BV_U)_C$

Local Business Volume Unrealized because of the Existence of College Enterprises

$$(BV_U)_C = (I_{BV})_C (K)$$

$(I_{BV})_C$ = income received by the college from the operation of local and on-campus college-owned business enterprises

K = estimate of local multiplier

Model G-1

R_{CR}

College-Related Revenues Received by Local Governments

$$R_{CR} = (R_{RE})_{CR} + (R_{NRE})_{CR}$$

$(R_{RE})_{CR}$ = college-related real-estate taxes paid to local governments (model G-1.1)

$(R_{NRE})_{CR}$ = college-related property taxes, other than real-estate, paid to local governments (model G-1.2)

Model G-1.1

College-Related Real-Estate Taxes Paid Local Governments

$$(R_{RE})_{CR} = (R_{RE})_{C} + (R_{RE})_{F} + (R_{RE})_{S} + (R_{RE.B})_{CR}$$

$(R_{RE})_{C}$ = real-estate taxes paid to local governments by the college (model G-1.1.1)

$(R_{RE})_{F}$ = real-estate taxes paid to local governments by local faculty and staff (model G-1.1.2)

$(R_{RE})_{S}$ = real-estate taxes paid to local governments by local fraternities, sororities, and other student living groups (model G-1.1.3)

$(R_{RE.B})_{CR}$ = real-estate taxes paid to local governments by local businesses for real property allocable to college-related business (model G-1.1.4)

Model G-1.2

$(R_A)_{CH}$

State Aid to Local Public Schools Allocable to Children of College-Related Families

$$(R_A)_{CH} = A_{PS}\frac{(CH_{PS})_F + (CH_{PS})_S}{CH_{PS}}$$

A_{PS} = total state aid to local public schools

$(CH_{PS})_F$ = number of faculty and staff children attending local public schools (see model G-2.2)

$(CH_{PS})_S$ = number of students' children attending local public schools (see model G-2.2)

CH_{PS} = total number of children attending local public schools (see model G-2.2)

Model G-1.1.1

$(R_{RE})_C$

Real-Estate Taxes Paid to Local Governments by the College

Obtained from college records

Model G-1.1.2

$(R_{RE})_F$

Real-Estate Taxes Paid to Local Governments by Local Faculty and Staff

$$(R_{RE})_F = \left[(F_L)\ (1-f_H)\right]\left[pt\frac{V_{PR}}{N_{PR}}\right]$$

F_L = number of faculty and staff residing locally

Model G-1.1.2 con't.

f_H = proportion of local faculty and staff who rent housing (see model B-1.1.2.1)

pt = local property tax rate

V_{PR} = total assessed valuation of all local private residences

N_{PR} = total number of local private residences

Model G-1.1.3

$(R_{RE,B})_{CR}$

Real-Estate Taxes Paid Local Governments by Local Businesses for Real Property Allocable to College-Related Business

$$(R_{RE,B})_{CR} = (pt)\left(\frac{BV_{CR}}{BV_L} V_B\right)$$

pt = local property tax rate (see model G-1.1.2)

BV_{CR} = college-related local business volume (model B-1)

BV_L = local business volume (see model B-2.1)

V_B = assessed valuation of local business real property (see model B-2.1)

Model G-2

$(OC_{M,PS})_{CR}$

Operating Cost of Local Government-Provided Municipal and Public School Services Allocable to College-Related Influences

$(OC_M)_{CR}$ = operating cost of local government-provided municipal services allocable to college-related influences (model G-2.1)

$(OC_{PS})_{CR}$ = operating cost of local public schools allocable to college-related persons (model G-2.2)

Model G-2.1

$(OC_M)_{CR}$

Operating Cost of Government-Provided Municipal Services Allocable to College-Related Influences

$$(OC_M)_{CR} = \left(\frac{\frac{F + S}{POP_{LD}} + \frac{FH + SH}{POP_{LR}}}{2} \right) (B_M)$$

F = total number of faculty and staff (see model B-3)

S = total number of students (see model B-3)

POP_{LD} = total local daytime population

FH_L = total number of persons in local faculty and staff households

SH_L = total number of persons in local student households

POP_{LR} = total local resident population

B_M = local governments' operating budgets for all municipal services except public schools

Model G-2.2

$(OC_{PS})_{CR}$

Operating Cost of Local Public Schools Allocable to College-Related Families

$$(OC_{PS})_{CR} = \left[\frac{(CH_{PS})_F + (CH_{PS})_S}{CH_{PS}}\right](B_{PS})$$

$(CH_{PS})_F$ = number of faculty and staff children attending local public schools (same as in model G-1.4.1)

$(CH_{PS})_S$ = number of students' children attending local public schools (same as model G-1.4.1)

CH_{PS} = total number of children attending local public schools (same as in model G-1.4.1)

B_{PS} = local governments' operating budgets for public schools

Model G-3

GP_{CR}

Value of Local Governments' Properties Allocable to College-Related Portion of Services Provided

$$GP_{CR} = \left[\frac{(OC_M)_{CR}}{B_M}\right](GP_M) + \left[\frac{(OC_{PS})_{CR}}{B_{PS}}\right](GP_{PS})$$

$(OC_M)_{CR}$ = operating cost of government-provided municipal services allocable to college-related influences (model G-2.1)

B_M = local governments' operating budgets for all municipal services except public schools (same as model in model G-2.1)

GP_M = value of all local government property except public schools

$(OC_{PS})_{CR}$ = operating cost of local public schools allocable to college-related persons (model G-2.2)

B_{PS} = local governments' operating budgets for public schools (same as in model G-2.2)

GP_{PS} = value of all local government property associated with public schools

Model G-4

$(RF_{RE})_C$

Real-Estate Taxes Foregone through the Tax-Exempt Status of the College

$$(RF_{RE})_C = R_{RE} - (R_{RE})_C \frac{G_C}{G_L} - (R_{RE})_C$$

R_{RE} = total real-estate taxes collected by local governments

$(R_{RE})_C$ = real-estate taxes paid to local governments by the college (model G-1.1.1)

G_C = geographical area of the college

G_L = geographical area of the local environment, exclusive of the college

Model G-5

$(OC_M)_{SC}$

Value of Municipal-Type Services Self-Provided by the College

$(OC_M)_{SC}$ =

1. police and security services
2. sanitation
3. street lighting
4. street maintenance
5. other services

Model I-1

Number of Local Jobs Attributable to the Presence of the College

$$J_L = F + (j)\ (E_L)_{CR} + (OC_{M,PS})_{CR}$$

F = total number of faculty and staff

j = full-time jobs per dollar of direct expenditures in the local environment

$(E_L)_{CR}$ = college-related local expenditures (model B-1.1)

$(OC_{M,PS})_{CR}$ = operating cost of government-provided municipal and public school services allocable to college-related influences (model G-2)

Model I-2

$$PI_{CR}$$

Personal Income of Local Individuals from College-Related Jobs and Business Activities

$$PI_{CR} = (f_L)(W_F) + (p)(E_L)_{CR}$$

f_L = proportion of faculty and staff residing locally (see model B-1.1.2.1)

W_F = payrolls and profits per dollar of local expenditures

$(E_L)_{CR}$ = college-related local expenditures (model B-1.1)

Model I-3

DG_{CR}

Durable Goods Procured with Income from College-Related Jobs and Business Activities

$$DG_{CR} = (i)(PI_{CR})$$

i = proportion of total income typically used to purchase durable goods

PI_{CR} = personal income of local individuals from college-related jobs and business activities (model I-2)